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09/582170  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Souhad AYOUB, et al.

SERIAL NUMBER: NEW U.S. PCT APPLICATION (based on PCT/SE98/02357)

FILED: HEREWITH

FOR: PROCEDURE AND SYSTEM FOR POSITION MANAGEMENT IN A  
MOBILE TELEPHONE SYSTEM

REQUEST FOR CONSIDERATION OF DOCUMENTS  
CITED IN INTERNATIONAL SEARCH REPORT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In the matter of the above-identified application for patent, notice is hereby given that applicant(s) request that the Examiner consider the documents cited in the International Search Report according to MPEP §609 and so indicate by a statement in the first Office Action that the information has been considered. When the Form PCT/DO/EO/903 indicates both the search report and copies of the documents are present in the national stage file, there is no requirement for the applicant(s) to submit them (1156 O.G. 91 November 23, 1993).

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



William E. Beaumont  
Attorney of Record  
Registration No. 30,996

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Registration No. 34,423



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(OSMMN 1/97)

# PATENT COOPERATION TREATY

PCT/SE98/02357

From the INTERNATIONAL BUREAU

PCT

## NOTIFICATION CONCERNING SUBMISSION OR TRANSMITTAL OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

PRAGSTEN, Rolf  
Telia Research AB  
Vitsandsgatan 9  
S-123 86 Farsta  
SUÈDE

Inform Kgp  
Telia Research AB

1999-03-18

Date of mailing (day/month/year) 08 March 1999 (08.03.99)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference Case 649 PCT	
International application No. PCT/SE98/02357	
International publication date (day/month/year) Not yet published	
International filing date (day/month/year) 17 December 1998 (17.12.98)	Priority date (day/month/year) 23 December 1997 (23.12.97)
Applicant TELIA AB (PUBL) et al	

- The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
- An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
23 Dec 1997 (23.12.97)	9704863-1	SE	04 Marc 1999 (04.03.99)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

Juan Cruz



Telephone No. (41-22) 338.83.38

## PCT

NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

PRAGSTEN, Rolf  
Telia Research AB  
Vitsandsgatan 9  
S-123 86 Farsta  
SUÈDEInkom Kgp  
Telia Research AB

1999-07- 1 2

Date of mailing (day/month/year)

01 July 1999 (01.07.99)

Applicant's or agent's file reference

Case 649 PCT

## IMPORTANT NOTICE

International application No.

PCT/SE98/02357

International filing date (day/month/year)

17 December 1998 (17.12.98)

Priority date (day/month/year)

23 December 1997 (23.12.97)

Applicant

TELIA AB (publ) et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
EP,JP,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:  
EE,LT,LV,NO

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on  
01 July 1999 (01.07.99) under No. WO 99/33305

## REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

## REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

J. Zahra

Telephone No. (41-22) 338.83.38

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

4

REC'D	25 APR 2000
WIPO	PCT

1 5000  
09/582170

Applicant's or agent's file reference Case 649 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/SE98/02357	International filing date (day/month/year) 17.12.1998	Priority date (day/month/year) 23.12.1997
International Patent Classification (IPC) or national classification and IPC <sub>7</sub> H04Q 7/38		
Applicant TELIA AB (publ) et al		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand  08.07.1999	Date of completion of this report  16.03.2000
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer  Anders Brinkman/MP Telephone No. 08-782 25 00

Form PCT/IPEA/409 (cover sheet) (January 1994)

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE98/02357

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☒ the international application as originally filed.
- ☐ the description, pages \_\_\_\_\_, as originally filed,  
 pages \_\_\_\_\_, filed with the demand,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the claims, Nos. \_\_\_\_\_, as originally filed,  
 Nos. \_\_\_\_\_, as amended under Article 19,  
 Nos. \_\_\_\_\_, filed with the demand,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
 sheets/fig \_\_\_\_\_, filed with the demand  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE98/02357

**V. Resoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	<u>1-22</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-22</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-22</u>	YES
	Claims		NO

**2. Citations and explanations**

The invention relates to procedures, a cellular mobile telephone system and a mobile station that reduce the signalling load in a cellular mobile telephone system which support packet switched services. The mobile station, being included in a cellular mobile telephone system, is switched between a first mode in a first state respective a second state depending on a time parameter. The time parameter indicates the time during which the mobile station shall remain in the first state before it changes to the second state.

The aim of the invention is to minimise the signalling load which depends on the position management, i.e. the procedure or the function to keep count of the position of the mobile station. An aspect of this aim is to determine a time parameter which at each state of the mobile station minimises the signalling load.

According to the invention as stated in independent claims 1, 2, 9 and 16 this aspect of the aim is achieved by means that currently set the value of the time parameter depending on the current speed of the mobile station through the cell network of the mobile telephone system.

None of the documents cited in the International Search Report, individually or in combination, anticipates the invention as described in independent claims 1, 2, 9 and 16.

Therefore, the subject matter according to claims 1-22 is considered to be novel, to involve inventive step and to be industrially applicable.

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Case 649 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/SE98/02357	International filing date ( <i>day/month/year</i> ) 17.12.1998	Priority date ( <i>day/month/year</i> ) 23.12.1997
International Patent Classification (IPC) or national classification and IPC <sub>7</sub> H04Q 7/38		
Applicant TELIA AB (publ) et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  08.07.1999	Date of completion of this report  16.03.2000
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer  Anders Brinkman/MP Telephone No. 08-782 25 00



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE98/02357

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

☒ the international application as originally filed.

☐ the description, pages \_\_\_\_\_, as originally filed.

pages \_\_\_\_\_, filed with the demand,

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☐ the claims, Nos. \_\_\_\_\_, as originally filed,

Nos. \_\_\_\_\_, as amended under Article 19,

Nos. \_\_\_\_\_, filed with the demand,

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,

sheets/fig \_\_\_\_\_, filed with the demand

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE98/02357

**V. Resoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	<u>1-22</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-22</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-22</u>	YES
	Claims		NO

**2. Citations and explanations**

The invention relates to procedures, a cellular mobile telephone system and a mobile station that reduce the signalling load in a cellular mobile telephone system which support packet switched services. The mobile station, being included in a cellular mobile telephone system, is switched between a first mode in a first state respective a second state depending on a time parameter. The time parameter indicates the time during which the mobile station shall remain in the first state before it changes to the second state.

The aim of the invention is to minimise the signalling load which depends on the position management, i.e. the procedure or the function to keep count of the position of the mobile station. An aspect of this aim is to determine a time parameter which at each state of the mobile station minimises the signalling load.

According to the invention as stated in independent claims 1, 2, 9 and 16 this aspect of the aim is achieved by means that currently set the value of the time parameter depending on the current speed of the mobile station through the cell network of the mobile telephone system.

None of the documents cited in the International Search Report, individually or in combination, anticipates the invention as described in independent claims 1, 2, 9 and 16.

Therefore, the subject matter according to claims 1-22 is considered to be novel, to involve inventive step and to be industrially applicable.

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C. 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year)

17 August 1999 (17.08.99)

International application No.

PCT/SE98/02357

Applicant's or agent's file reference

Case 649 PCT

International filing date (day/month/year)

17 December 1998 (17.12.98)

Priority date (day/month/year)

23 December 1997 (23.12.97)

Applicant

AYOUB, Souhad et al

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

08 July 1999 (08.07.99)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

A. Karkachi

Telephone No.: (41-22) 338.83.38

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/02357

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04Q 7/38

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

INSPEC, WPI, EPODOC, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9737504 A1 (NOKIA TELECOMMUNICATIONS OY), 9 October 1997 (09.10.97), page 4, line 12 - page 5, line 33, abstract --	1-22
A	US 5745695 A (PHILIP GILCHRIST ET AL), 28 April 1998 (28.04.98), see whole document --	1-22
A	GB 2243976 A (NEC CORPORATION), 13 November 1991 (13.11.91), page 5, line 15 - page 6, line 14; page 9, line 15 - line 27 --	1,2,9,16

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

11 June 1999

Date of mailing of the international search report

15 -06- 1999

Name and mailing address of the ISA

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Peter Hedman/MN

Telephone No. +46 8 782 25 00

2  
INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SE 98/02357

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9413114 A1 (NOKIA TELECOMMUNICATIONS OY), 9 June 1994 (09.06.94), page 2, line 11 - page 4, line 28  ----- --	1,2,9,16

INTERNATIONAL SEARCH REPORT  
Information on patent family members

03/05/99

International application No.

PCT/SE 98/02357

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9737504 A1	09/10/97	AU 2029897 A CA 2250064 A EP 0891677 A FI 961472 A	22/10/97 09/10/97 20/01/99 02/10/97
US 5745695 A	28/04/98	NONE	
GB 2243976 A	13/11/91	JP 2800455 B JP 5003581 A JP 10248085 A US 5305466 A	21/09/98 08/01/93 14/09/98 19/04/94
WO 9413114 A1	09/06/94	AU 671511 B AU 5564294 A EP 0679321 A FI 98186 B,C FI 925447 A JP 8503588 T	29/08/96 22/06/94 02/11/95 15/01/97 31/05/94 16/04/96

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>Case 649 PCT</b>	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">FOR FURTHER ACTION</div> <div style="font-size: small;">see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>	
International application No. <b>PCT/SE 98/02357</b>	International filing date ( <i>day/month/year</i> ) <b>17 December 1998</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>23 December 1997</b>
Applicant <b>Telia AB (publ) et al</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (See Box I).
  
2. ☐ Unity of invention is lacking (See Box II).
  
3. ☐ The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing
 

☐ filed with the international application.  
☐ furnished by the applicant separately from the international application,  

☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.

☐ transcribed by this Authority.
  
4. With regard to the title, ☒ the text is approved as submitted by the applicant.  
☐ the text has been established by this Authority to read as follows:
  
5. With regard to the abstract,
 

☒ the text is approved as submitted by the applicant.  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
  
6. The figure of the drawings to be published with the abstract is:  
 Figure No. 2

☐ as suggested by the applicant.  
☐ because the applicant failed to suggest a figure.  
☒ because this figure better characterizes the invention.

☐ None of the figures.



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification<sup>6</sup> :

H04Q 7/38

A3

(11) International Publication Number:

WO 99/33305

(43) International Publication Date:

1 July 1999 (01.07.99)

(21) International Application Number: PCT/SE98/02357

(22) International Filing Date: 17 December 1998 (17.12.98)

(30) Priority Data:

9704863-1

23 December 1997 (23.12.97)

SE

(71) Applicant (for all designated States except US): TELIA AB  
(publ) [SE/SE]; Mårbackagatan 11, S-123 86 Farsta (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): AYOUB, Souhad  
[SE/SE]; Terapivägen 8 B, S-141 55 Huddinge (SE).  
ANDERSIN, Michael [SE/SE]; Fatburs Kvamgata 2, S-118  
64 Stockholm (SE).(74) Agent: PRAGSTEN, Rolf; Telia Research AB, Vitsandsgatan  
9, S-123 86 Farsta (SE).(81) Designated States: EE, JP, LT, LV, NO, US, European patent  
(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT,  
LU, MC, NL, PT, SE).

Published

With international search report.

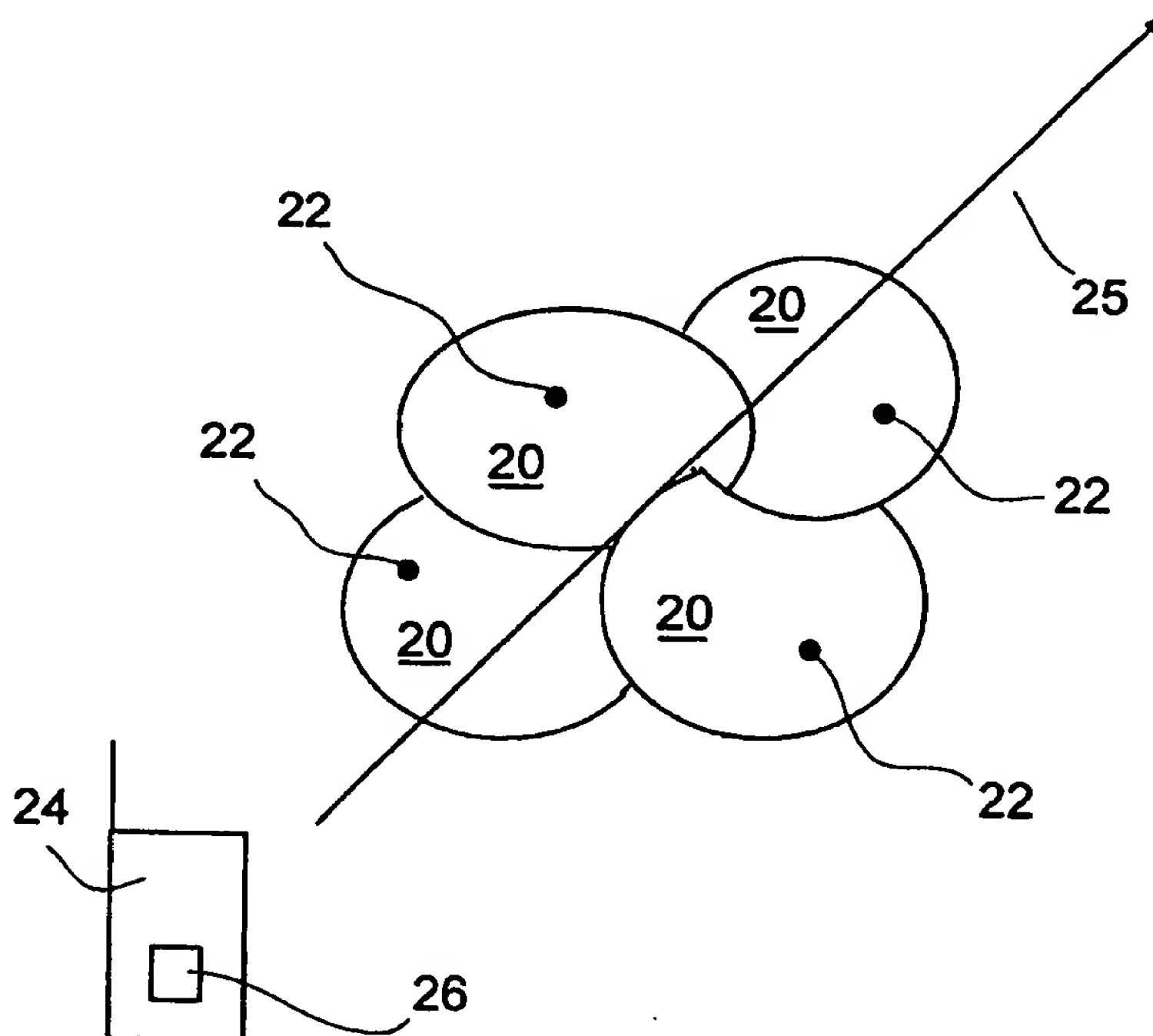
(88) Date of publication of the international search report:

10 September 1999 (10.09.99)

(54) Title: PROCEDURE AND SYSTEM FOR POSITION MANAGEMENT IN A MOBILE TELEPHONE SYSTEM

## (57) Abstract

A device, a system and a procedure to reduce the signalling load in a cellular mobile telephone system which support packet switched services are described. One in the mobile telephone system included mobile station is switched between a first mode in a first state, here called Ready State, respective a second state, here called Standby State, depending on a time parameter which indicates a time during which the mobile station shall remain in the first state, in order to after that switch to the second state. The value of the time parameter is set currently depending on the current speed of the mobile station through the cell network of the mobile telephone system.





**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/02357

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04Q 7/38

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

INSPEC, WPI, EPODOC, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9737504 A1 (NOKIA TELECOMMUNICATIONS OY), 9 October 1997 (09.10.97), page 4, line 12 - page 5, line 33, abstract  --	1-22
A	US 5745695 A (PHILIP GILCHRIST ET AL), 28 April 1998 (28.04.98), see whole document  --	1-22
A	GB 2243976 A (NEC CORPORATION), 13 November 1991 (13.11.91), page 5, line 15 - page 6, line 14; page 9, line 15 - line 27  --	1,2,9,16

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

11 June 1999

Date of mailing of the international search report

15 -06- 1999

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/02357

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9413114 A1 (NOKIA TELECOMMUNICATIONS OY), 9 June 1994 (09.06.94), page 2, line 11 - page 4, line 28  -----	1,2,9,16

# INTERNATIONAL SEARCH REPORT

Information on patent family members

03/05/99

International application No.

PCT/SE 98/02357

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9737504 A1	09/10/97	AU 2029897 A CA 2250064 A EP 0891677 A FI 961472 A	22/10/97 09/10/97 20/01/99 02/10/97
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WO 9413114 A1	09/06/94	AU 671511 B AU 5564294 A EP 0679321 A FI 98186 B,C FI 925447 A JP 8503588 T	29/08/96 22/06/94 02/11/95 15/01/97 31/05/94 16/04/96

1  
INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/02357

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**B. FIELDS SEARCHED**

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/02357

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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9 June 1994 (09.06.94), page 2, line 11 - page 4,  
line 28

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Information on patent family members

03/05/99

International application No.

PCT/SE 98/02357

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GB 2243976 A	13/11/91	JP 2800455 B JP 5003581 A JP 10248085 A US 5305466 A	21/09/98 08/01/93 14/09/98 19/04/94
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